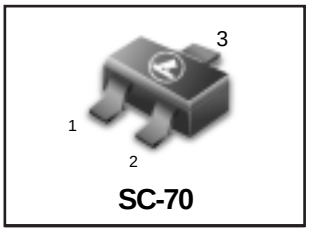
High-Frequency Amplifier Transistor

L2SC3356WT1G
S-L2SC3356WT1G



DESCRIPTION

The L2SC3356WT1is an NPN silicon epitaxial transistor designed for low noise amplifier at VHF, UHF and CATV band.

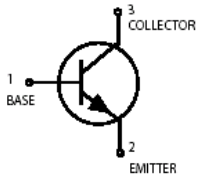
It has dynamic range and good current characteristic.
S- Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q101 Qualified and PPAP Capable.

ORDERING INFORMATION

Device	Marking	Shipping
L2SC3356WT1G S-L2SC3356WT1G	24	3000/Tape & Reel
L2SC3356WT3G S-L2SC3356WT3G	24	10000/Tape & Reel

FEATURES

- We declare that the material of product compliance with RoHS requirements.
- Low Noise and High Gain
  NF = 1.1 dB TYP., G_a = 11 dB TYP. @V_{CE} = 10 V, I_C = 7 mA, f = 1.0 GHz
- High Power Gain
  MAG = 13 dB TYP. @V_{CE} = 10 V, I_C = 20 mA, f = 1.0 GHz



ABSOLUTE MAXIMUM RATINGS (T_A = 25 °C)

Collector to Base Voltage	V_{CBO}	20	V
Collector to Emitter Voltage	V_{CEO}	12	V
Emitter to Base Voltage	V_{EBO}	3.0	V
Collector Current	I_C	100	mA
Total Power Dissipation	P_T	150	mW
Junction Temperature	T_j	150	°C
Storage Temperature	T_{stg}	–65 to +150	°C

ELECTRICAL CHARACTERISTICS (T_A = 25 °C)

CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Collector Cutoff Current	I_{CBO}			1.0	μA	V_{CB} = 10 V, I_E = 0
Emitter Cutoff Current	I_{EBO}			1.0	μA	V_{EB} = 1.0 V, I_C = 0
DC Current Gain	h_{FE}	82	170	270		V_{CE} = 3 V, I_C = 10 mA
Gain Bandwidth Product	f_T		7		GHz	V_{CE} = 10 V, I_C = 20 mA
Feed-Back Capacitance	C_{re}**		0.55	1.0	pF	V_{CB} = 10 V, I_E = 0, f = 1.0 MHz
Insertion Power Gain	$\|S_{21e}\|^2$		11.5		dB	V_{CE} = 10 V, I_C = 20 mA, f = 1.0 GHz
Noise Figure	NF		1.1	2.0	dB	V_{CE} = 10 V, I_C = 7 mA, f = 1.0 GHz

* Pulse Measurement PW ≤ 350 μs, Duty Cycle ≤ 2 %

* The emitter terminal and the case shall be connected to the guard terminal of the three-terminal capacitance bridge.

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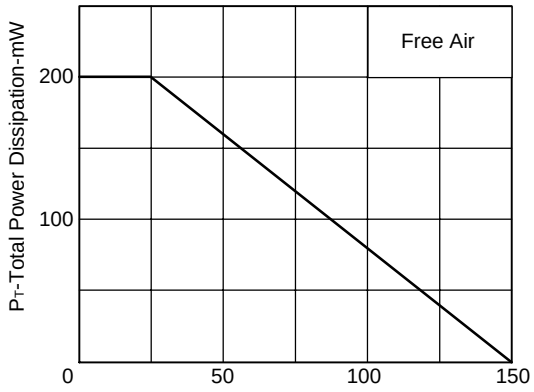
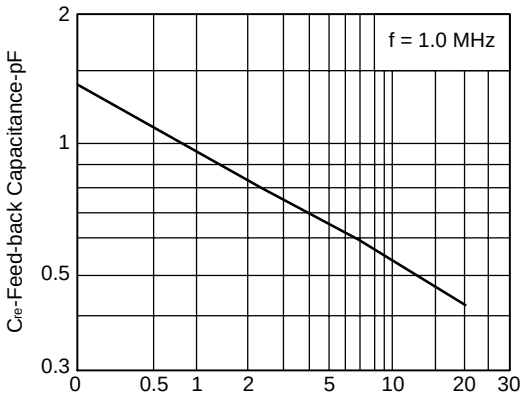
TYPICAL CHARACTERISTICS (T_A = 25 °C)

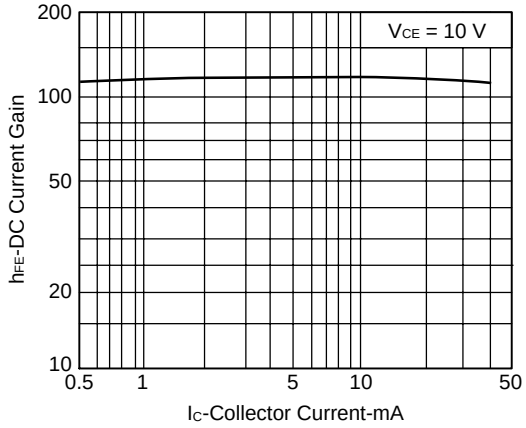
TOTAL POWER DISSIPATION vs.
AMBIENT TEMPERATURE



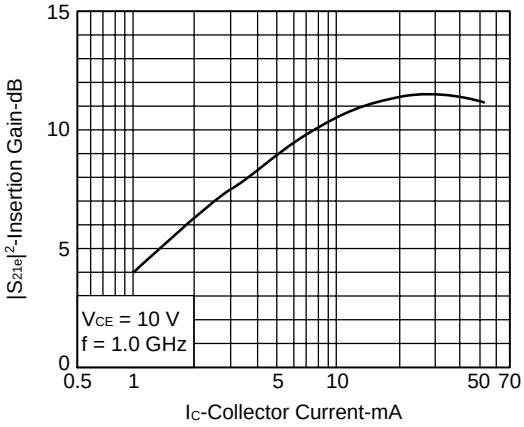
FEED-BACK CAPACITANCE vs.
COLLECTOR TO BASE VOLTAGE



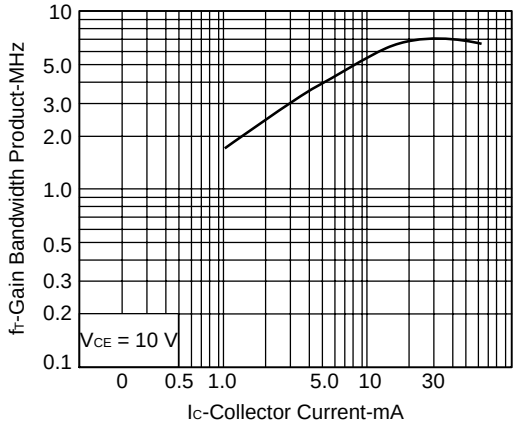
DC CURRENT GAIN vs.
COLLECTOR CURRENT



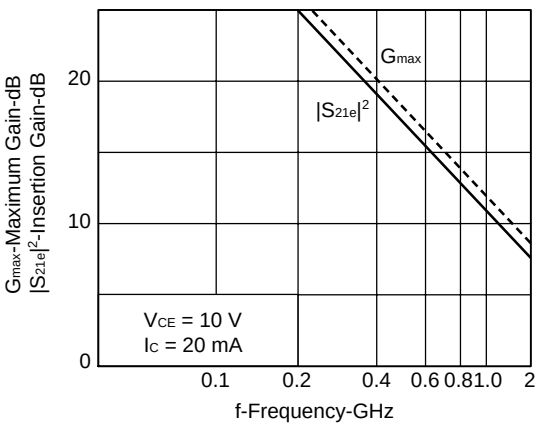
INSERTION GAIN vs.
COLLECTOR CURRENT



GAIN BANDWIDTH PRODUCT vs.
COLLECTOR CURRENT



INSERTION GAIN, MAXIMUM GAIN
vs. FREQUENCY



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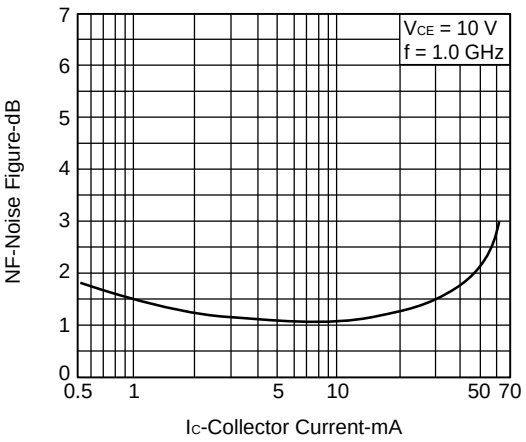
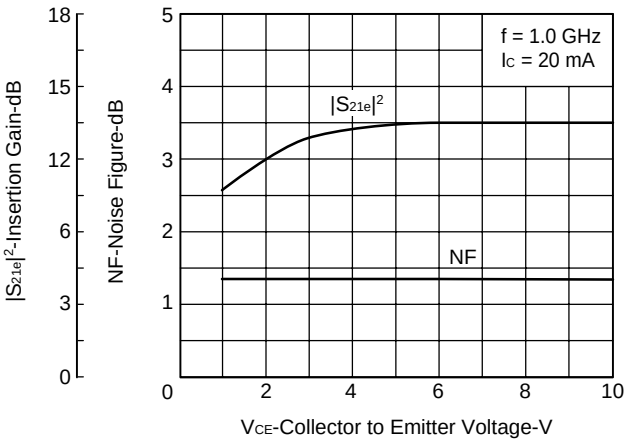
NOISE FIGURE vs.
COLLECTOR CURRENT



NOISE FIGURE, FORWARD INSERTION
GAIN vs. COLLECTOR TO EMITTER VOLTAGE



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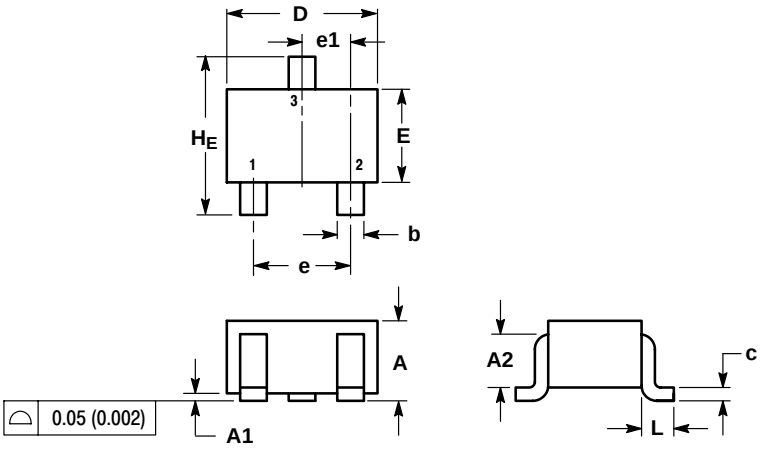
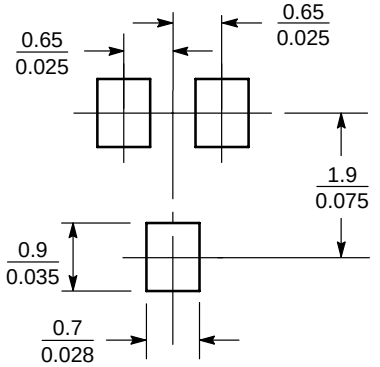


NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.

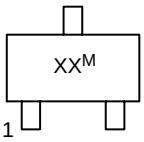
	MILLIMETERS			INCHES		
DIM	MIN	NOM	MAX	MIN	NOM	MAX
A	0.80	0.90	1.00	0.032	0.035	0.040
A1	0.00	0.05	0.10	0.000	0.002	0.004
A2		0.7 REF			0.028 REF	
b	0.30	0.35	0.40	0.012	0.014	0.016
c	0.10	0.18	0.25	0.004	0.007	0.010
D	1.80	2.10	2.20	0.071	0.083	0.087
E	1.15	1.24	1.35	0.045	0.049	0.053
e	1.20	1.30	1.40	0.047	0.051	0.055
e1		0.65 BSC			0.026 BSC	
L		0.425 REF			0.017 REF	
HE	2.00	2.10	2.40	0.079	0.083	0.095

SOLDERING FOOTPRINT*



SCALE 10:1 (mm / inches)

GENERIC MARKING DIAGRAM



XX = Specific Device Code
M = Date Code
▪ = Pb−Free Package

*This information is generic. Please refer to device data sheet for actual part marking. Pb−Free indicator, “G” or microdot “ ▪”, may or may not be present.